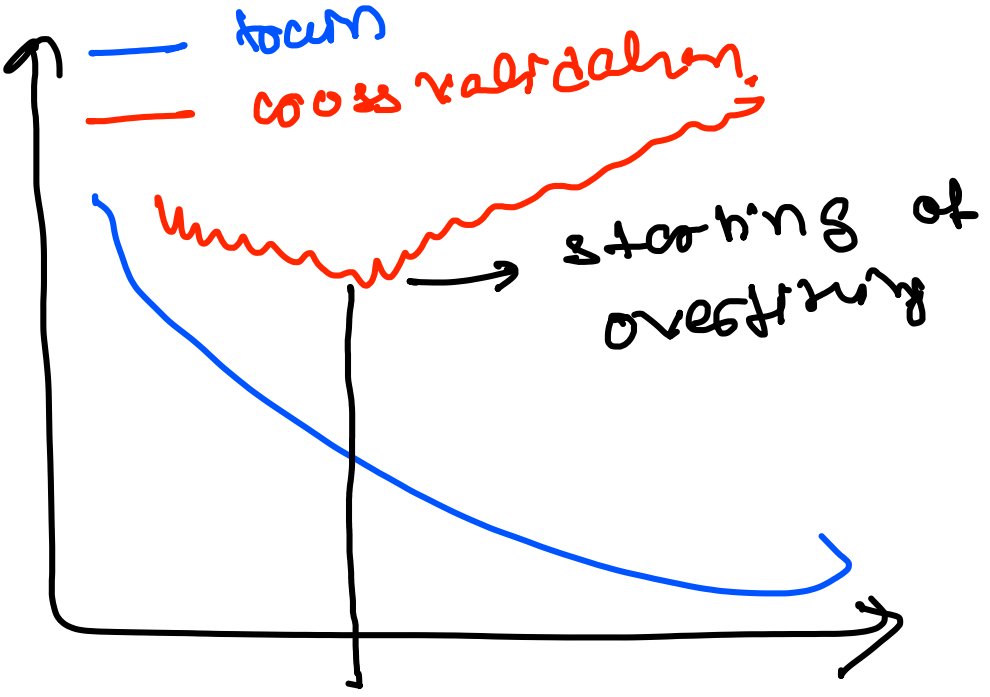
Early stopping

* there is a high chance after lot of epochs the model is overfitted so need to stop it early



* Call back is function which gives a feature to check something after each epoch.

* Early stopping is the condition we need to check whether the model is improving.

```
tf.keras.callbacks.EarlyStopping(
    monitor="val_loss",
    min_delta=0,
    patience=0,
    verbose=0,
    mode="auto",
    baseline=None,
    restore_best_weights=False,
)
```

* monitor is a parameter to put the parameter need to be monitored

* min_delta → min change to be qualified for

- **monitor**: Quantity to be monitored.
- **min_delta**: Minimum change in the monitored quantity to qualify as an improvement, i.e. an absolute change of less than min_delta, will count as no improvement.
- **patience**: Number of epochs with no improvement after which training will be stopped.
- **verbose**: Verbosity mode, 0 or 1. Mode 0 is silent, and mode 1 displays messages when the callback takes an action.
- **mode**: One of `{"auto", "min", "max"}`. In `min` mode, training will stop when the quantity monitored has stopped decreasing; in `"max"` mode it will stop when the quantity monitored has stopped increasing; in `"auto"` mode, the direction is automatically inferred from the name of the monitored quantity.
- **baseline**: Baseline value for the monitored quantity. Training will stop if the model doesn't show improvement over the baseline.
- **restore_best_weights**: Whether to restore model weights from the epoch with the best value of the monitored quantity. If False, the model weights obtained at the last step of training are used. An epoch will be restored regardless of the performance relative to the `baseline`. If no epoch improves on `baseline`, training will run for `patience` epochs and restore weights from the best epoch in that set.